introducing a reactive gas into said internal environment of said process chamber with said reactive gas at a first molecular ratio relative to a molecular content of said internal environment;

adjusting said first molecular ratio to a second molecular ratio; and

unloading the semiconductor wafer from said process chamber at said steady -state processing temperature and while said internal environment is at said second molecular ratio.

2. (Amended) The method of Claim 1, wherein said steady-state processing temperature is between 800° C and 1200° C.

3. (Amended) The method of Claim 1, wherein said steady-state processing temperature is between 200° C and 800° C.

4. (Amended) The method of Claim 1, wherein said adjusting of said first molecular ratio to said second molecular ratio comprises introducing an inert gas into said internal environment, wherein said second molecular ratio between said reactive gas and said inert gas causes said reactive gas to be at a preselected partial pressure.

5. (Amended) The method of Claim 4, wherein said preselected partial pressure of said reactive gas is between 0.1 Torr and 760 Torr.

6. The method of Claim 4, wherein said inert gases is taken from the group consisting of argon, helium and nitrogen.

7. (Amended) The method of Claim 1, wherein said preselected partial pressure of said reactive gas is between 0.1 Torr and 760 Torr.

8. (Amended) The method of Claim 1, wherein said preselected partial pressure comprises a partial pressure of said process chamber between about 0.1 Torr and 760 Torr.

9. The method of Claim 1, wherein said reactive gas comprises a gas taken from the group consisting of O_2, NH_3, TaETO, NO, N_2O, and H_2O.

LAW OFFICES OF
MACPHERSON KWOK CHEN
& HEID LLP

2402 Michelson Drive
Suite 210
Irvine, CA 92612
(949) 752-7040
FAX (949) 752-7049

Sub C4

10. (Amended) The method of Claim 1, wherein said adjusting includes introducing N_2 into said internal environment to reduce said first molecular ratio to said second molecular ratio.

11. (Amended) A method of forming a thin film on a semiconductor wafer comprising:

heating a process chamber to a steady-state processing temperature;

loading a semiconductor wafer into a process chamber, said process chamber being under vacuum pressure;

introducing a process gas at a first partial pressure into said process chamber;

adjusting said first partial pressure to a second partial pressure; and

removing said semiconductor wafer from said process chamber while said process gas is at said second partial pressure.

B1 cont

12. The method of Claim 11, wherein said loading of a semiconductor wafer comprises loading a plurality of semiconductor wafers and removing of said semiconductor wafer comprises removing said plurality of semiconductor wafers.

13. (Amended) The method of Claim 12, wherein said loading and removing of a plurality of semiconductor wafers are accomplished using a robot arm comprising multiple end-effectors for grasping said plurality of semiconductor wafers.

Sub C5 Cont

14. (Amended) A method of forming a thin film on a semiconductor wafer comprising:

heating a process chamber to a steady-state temperature;

pulling a first pressure in said process chamber;

loading at least one semiconductor wafer into said process chamber while said process chamber is at said first pressure;

introducing a process gas at a first partial pressure relative to said first pressure into said process chamber to allow processing of said at least one semiconductor wafer to commence;

varying said first partial pressure to a second partial pressure which allows said processing of said semiconductor wafer to cease; and

LAW OFFICES OF
MACPHERSON KWOK CHEN
& HEID LLP

2402 Michelson Drive
Suite 210
Irvine, CA 92612
(949) 752-7040
FAX (949) 752-7049

removing the at least one semiconductor wafer from said process chamber while said process chamber is at said second partial pressure.

15. (Amended) The method of Claim 14, wherein said steady-state temperature is a process temperature between about 800° C and 1200° C.

16. (Amended) The method of Claim 14, wherein said first pressure is maintained in the range of between 0.1 Torr and 760 Torr.

17. The method of Claim 14, wherein said process chamber is a resistively heated furnace.

18. The method of Claim 14, wherein said process gas is O_2.

19. (Amended) The method of Claim 14, wherein said varying said first partial pressure to a second partial pressure comprises pulling a vacuum pressure within said process chamber.

20. (Amended) The method of Claim 14, wherein said removing the at least one semiconductor wafer from said process chamber while said process chamber is at said second partial pressure is accomplished while said second partial pressure is substantially at vacuum pressure.

21. The method of Claim 14, wherein said loading of said at least one semiconductor wafer is accomplished in the absence of substantially all oxygen.

REMARKS

Claims 1-21 are pending. Claims 1-5, 7, 8, 10, 11, 13-16 and 19-20 have been amended. Applicant requests reconsideration and reexamination of the pending claims.

Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolf, Silicon Processing for the VLSI Era, vol. 1-Process Technology: pp. 164-165, 169-178, 182-4, 194,

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MACPHERSON KWOK CHEN
& HEID LLP

2402 Michelson Drive
Suite 210
Irvine, CA 92612
(949) 752-7040
FAX (949) 752-7049